UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,717	02/08/2006	Louis Robert Litwin	PU030177	4024

24498 7590 08/27/2008

Joseph J. Laks
Thomson Licensing LLC
2 Independence Way, Patent Operations
PO Box 5312
PRINCETON, NJ 08543

EXAMINER	
NGUYEN, QUANG N	
ART UNIT	PAPER NUMBER
2141	

MAIL DATE	DELIVERY MODE
08/27/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Detailed Action

1. This Office Action is responsive to the Response to Final Office Action filed on 08/11/2008. Claims 1-12 and 14-21 are pending for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4, 6-7, 9-12 and 15-21 are rejected under 35 U.S.C. 102(e) as being unpatentable by Hsu (2004/0205158 A1), in view of Applicant's Admitted Prior Art (AAPA).

4. As to claim 1, **Hsu** teaches a method, comprising:

scanning, by a wireless local area network scanner in a wireless device, to detect the presence of a wireless local area network WLAN *(i.e., the Mobile Station MS tunes to WLAN frequencies and actively or passively scans for the WLAN beacon, using a WLAN tuner)* **(Hsu, paragraphs [0064] and [0078-0080])**;

detecting the presence of said wireless local area network by employing said wireless local area network scanner to identify energy fluctuations *(the MS tunes to WLAN frequencies and uses active or passive scanning to detect WLAN coverage)* **(Hsu, paragraphs [0043], [0061] and [0064])**;

contacting a base station of said wireless local area network by the wireless local area network baseband circuit in said wireless device in response to detection of said wireless local area network to request location of said base station *(upon receipt of the WLAN request from the MS, the Base Station BS may transmit the information such as location identification for the WLAN)* **(Hsu, paragraphs [0046], [0050] and [0052])**; and

receiving location of said wireless local area network *(the Base Station BS transmits location information identifies the Access Points APs supporting the WLAN)* **(Hsu, paragraphs [0046], [0050] and [0052])**.

Hsu does not **explicitly** teach identifying energy fluctuations without a wireless local area network baseband circuit being activated to process data.

However, as well-known to one of ordinary skill in the art, Applicant's Admitted Prior Art (**AAPA**) teaches that the frequency reference accuracy specified in WLAN standards (e.g., $\pm$25 ppm as specified in the IEEE 802.11b standard) can allow the phase-locked loop (PLL) circuit to operate without automatic frequency control (AFC) provided by the WLAN baseband circuitry and as such, the WLAN baseband circuitry does not have to be activated to detect the presence of the WLAN, thereby conserving power and saving battery life in the mobile device **(AAPA, page 10, lines 15-18)**.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the frequency reference as specified in the IEEE 802.11 standards to allow the PLL circuit to operate without AFC provided by the WLAN baseband circuitry, as disclosed by the **AAPA**, into the teachings of **Hsu**. One would be motivated to do so to conserve power and to save battery life in the mobile device.

5. As to claim 2, **Hsu-AAPA** teaches the method of claim 1, further comprising logging, on said wireless device, said location of said base station for future reference **(Hsu, paragraphs [0076] and [0083])**.

6. As to claim 3, **Hsu-AAPA** teaches the method of claim 1, wherein said location comprises a map coordinate location of said base station **(Hsu, paragraph [0052])**.

7. As to claim 4, **Hsu-AAPA** teaches the method of claim 1, wherein said location comprises one of a street address and longitude/latitude coordinates for said base station **(Hsu, paragraph [0052])**.

8. As to claim 6, **Hsu-AAPA** teaches method of claim 2, wherein said logging of said location is one of automated logging and a manual logging **(Hsu, paragraphs [0027] and [0030])**.

9. As to claim 7, **Hsu-AAPA** teaches the method of claim 1, wherein said location comprises global position coordinates **(Hsu, paragraph [0052])**.

10. Claims 9-12 are corresponding wireless device claims of method claims 1, 3-4 and 7; therefore, they are rejected under the same rationale.

11. As to claim 15, **Hsu-AAPA** teaches the wireless device of claim 9, further comprising the step of displaying a location of a base station of a wireless local area network logged previously that is near said wireless device *(i.e., the display may provide the AP location in the context of a local map in a graphical manner or as a textual message)* **(Hsu, paragraph [0052])**.

12. Claims 16-20 are corresponding mobile device claims of method claims 1-4 and 7; therefore, they are rejected under the same rationale.

13. Claim 21 is a corresponding mobile device claim of wireless device claim 15; therefore, it is rejected under the same rationale.

14. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu-AAPA, and further in view of Rao (US 2004/0264395 A1).

15. As to claim 5, **Hsu-AAPA** teaches the method of claim 1, but does not explicitly teach comparing a MAC address of said base station to a database of known locations of base stations or wireless local area networks and not requesting a location if the contacted said base station is already in said database.

In the same field of endeavor, **Rao** teaches a wireless network client 2 scans the network for discovering wireless access points, creates and stores a list of detected wireless access points containing entries for each discovered wireless local network identifier such as SSID in an 802.11 environment, the MAC address and the signal-to-noise ratio of the corresponding detected wireless access point **(Rao, paragraphs [0010] and [0052-0053])**.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the feature of adding discovered wireless access points information to a client database, as disclosed by **Rao**, into the teachings of **Hsu-AAPA**. One would be motivated to do so to provide automatic configuration of wireless network client in a wireless local area network environment without the need for user intervention, i.e., automatically obtaining the network identifier and other network related information for the local wireless access point in order to select the best available wireless local area network for accessing **(Rao, paragraph [0058])**.

16. Claims 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu-AAPA, and further in view of Sundar et al. (US 2003/0134650 A1), hereinafter "Sundar".

17. As to claim 8, **Hsu-AAPA** teaches the method of claim 1, but does not explicitly teach detecting signature sequences from a wireless local area network.

In an analogous art, **Sundar** teaches detecting signature sequences from a wireless local area network *(a mobile station 310 may initiate a detection 402 of RF energy in the relevant spectrum from a wireless local area network)* **(Sundar, paragraphs [0055-0058])**.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the features of detecting signature sequences *(i.e., RF energy)* from a wireless local area network, as disclosed by **Sundar**, into the teachings of **Hsu-AAPA**. One would be motivated to do so to detect the presence of a WLAN by detecting the RF energy in the permitted 802.11a/b/g spectrum **(Sundar, paragraph [0055])**.

18. Claim 14 is a corresponding wireless device claim of method claim 8; therefore, it is rejected under the same rationale.

Response to Arguments

19. In the Remarks/Arguments, Applicants argued in substance that

(**A**) "However, as discussed in the response to the office action dated December 26, 2007, regarding known prior art, AAPA (Applicant's Admitted Prior Art) simply indicates that standard frequency reference accuracies themselves are known (*'±25 ppm as specified in the IEEE 802.11b standard')*. AAPA does not state that operating a PLL without automatic frequency control is well known in the art. Therefore, the description in the Specification concerning PLL circuit operation without AFC cannot be relied upon in the rejection of claim 1" **(as recited from page 7 of the Response to Final Office Action filed 08/11/2008)**.

As to point (**A**), Examiner respectfully disagrees noting that by reading lines 15-18, page 10 of the specification:

> "The **frequency reference accuracy specified in WLAN standards** (e.g., ±25 ppm as specified in the IEEE 802.11b standard) **can allow the phase-locked loop (PLL) circuit to operate without automatic frequency control (AFC)** provided by the WLAN baseband circuitry. **As such, the WLAN baseband circuitry 208 does not have to be activated to detect the presence of the WLAN**, thereby conserving power and saving battery life in the mobile device."

A person of ordinary skill in the art would readily recognized that the Applicants **admitted/agreed** that "the frequency reference accuracy specified in WLAN standards *(e.g., ±25 ppm as specified in the IEEE 802.11b standard)* can allow the phase-locked loop (PLL) to operate without automatic frequency control (AFC) provided by the WLAN baseband circuitry" and "the WLAN baseband circuitry 208 does not have to be activated to detect the presence of the WLAN, thereby conserving power and saving battery life in the mobile device".

Additionally, in order to support that "The frequency reference accuracy specified in WLAN standards *(e.g., ±25 ppm as specified in the IEEE 802.11b standard)*" can allow the phase-locked loop (PLL) to operate without automatic frequency control (AFC) provided by the WLAN baseband circuitry", as admitted by AAPA (page 10, lines 15-18, of the specification), is well-known to one ordinary skill in the art, Examiner respectfully submits that **"Clock Solutions for WiFi (IEEE 802.11)" by Brandon Ogilvie** *(cited here as a supportive reference)* teaches that both client and AP (Access Point) designs incorporate a RF transceiver and a baseband/MAC that operate with a common reference clock (REFCLK) input and the typical performance requirement is ***±25 ppm all-inclusive frequency stability*** *(see page 2, last paragraph)*. Client NICs are often designed to incorporate a low power "sleep" mode to conserve battery power. During sleep mode, a continuous reference clock signal for the RF transceiver and baseband/MAC is not necessary; **a crystal clock oscillator with low-power stand-by function is recommended** *(see page 3, first paragraph)*. **Brandon Ogilvie** also teaches some designs for client NICs may use an industry-standard 32.768 kHz crystal

for low-power "sleep" mode to conserve battery power and **while in sleep mode, most functions of the baseband/MAC and RF IC are shutdown. Meanwhile, the 32.768 kHz crystal remains active and the baseband/MAC will continue to receive and process the 32.768 kHz signal and use this to establish wake-up intervals** (i.e., to identify energy fluctuations without a wireless baseband circuit being activated to process data) *(see page 3, Application: Sleep Mode REFCLK)*.

Furthermore, in order to support that "The frequency reference accuracy specified in WLAN standards *(e.g., ±25 ppm as specified in the IEEE 802.11b standard)*" can allow the phase-locked loop (PLL) to operate without automatic frequency control (AFC) provided by the WLAN baseband circuitry", as admitted by AAPA, is well-known to one ordinary skill in the art, Examiner respectfully submits that **"Power Efficient Channel Scheduling In a Wireless Network" by Bah et al. (US 7,110,783)** *(cited in PTO-892 with the last Office Action as supportive reference)* teaches that the messages passed between the low power transceiver 100 and 102 and host transceiver 212 are transmitted over the lower power, low bandwidth, control channel, and not a primary communication channel (e.g., an 802.11 channel) **the standard high power NIC cards of the wireless computing devices 220 and 222 need not be used for facilitating the presence detection and registration process, resulting in less power usage by the devices** (i.e., to identify energy fluctuations without a wireless baseband circuit being activated to process data) **(Bah et al, col. 7, line 64 – col. 9, line 33)**.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that

any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Hence, **Hsu** in view of **AAPA** (Applicant Admitted Prior Art) does render claim 1 obvious because *"**The frequency reference accuracy specified in WLAN standards** (e.g., ±25 ppm as specified in the IEEE 802.11b standard) **can allow the phase-locked loop (PLL) circuit to operate without automatic frequency control (AFC) provided by the WLAN baseband circuitry**"*, and *"the **WLAN baseband circuitry** 208 **does not have to be activated to detect the presence of the WLAN**, thereby conserving power and saving battery life in the mobile device"*, because the description in the Specification concerning PLL circuit operation without AFC can be relied upon in the rejection of claim 1.

(**B**) "Furthermore, it should be noted that even if it were well known in the art that it is possible to run a PLL circuit without automatic frequency control, the Examiner has not identified any means in the prior art for detecting the presence of a WLAN by identifying energy fluctuations without processing signals for data or without performing carrier recovery. Thus, even if it were known that a PLL circuit may run without

automatic frequency control, one of ordinary skill in the art could not recognize how to implement such a feature to detect the presence of a WLAN" **(as recited in pages 8-9 of the Response to Final Office Action filed 08/11/2008)**.

As to point (**B**), Examiner respectfully disagrees noting that **Hsu** does teach at paragraph [0061] that "Once the MS monitors for cellular page indicators, the MS then is able to **tune to the WLAN frequencies** and use **passive** or active **scanning to detect WLAN coverage**" based on one or more factors, e.g., user command, pre-configured preference, WLAN availability advertisement as received from the cellular network, etc *(means for detecting the presence of a WLAN by identifying energy fluctuations)*.

Although **Hsu** does not **explicitly** teach identifying energy fluctuations without a wireless local area network baseband circuit being activated to process data.

However, as well-known to one of ordinary skill in the art, Applicant's Admitted Prior Art (**AAPA**) teaches that the frequency reference accuracy specified in WLAN standards (e.g., $\pm$25 ppm as specified in the IEEE 802.11b standard) can allow the phase-locked loop (PLL) circuit to operate without automatic frequency control (AFC) provided by the WLAN baseband circuitry and as such, the WLAN baseband circuitry does not have to be activated to detect the presence of the WLAN, thereby conserving power and saving battery life in the mobile device **(AAPA, page 10, lines 15-18)**.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the frequency reference as specified in

the IEEE 802.11 standards to allow the PLL circuit to operate without AFC provided by the WLAN baseband circuitry, as disclosed by the **AAPA**, into the teachings of **Hsu**. One would be motivated to do so to conserve power and to save battery life in the mobile device.

Hence, **Hsu** in view o**f AAPA** does teach the Mobile Station MS has a *"means for detecting the presence of a WLAN by identifying energy fluctuations without processing signals for data or without performing carrier recovery"*, as claimed in the invention.

(**C**) "It is respectfully submitted that the finality of the Office Action dated May 28, 2008 is improper, as the Examiner has asserted a new ground of rejection that was not necessitated by amendment or submission of an information disclosure statement" **(as recited from page 12 of the Response to Final Office Action filed 08/11/2008)**.

As to point (**C**), in response to the argument that *"the finality of the Office Action dated May 28, 2008 is improper, as the Examiner has asserted a new ground of rejection that was not necessitated by amendment or submission of an information disclosure statement"*, Examiner respectfully disagrees noting that the "ground of rejection" has always been the same since the Office Action dated December 26, 2007 as **"Claims 1-4, 6-7, 9-12 and 15-21 are rejected under 35 U.S.C. 102(e) as being unpatentable by Hsu (2004/0205158 A1), in view of Applicant's Admitted Prior Art (AAPA)"**.

Examiner respectfully submits that the references of **"Clock Solutions for WiFi (IEEE 802.11)" by Brandon Ogilvie** and **"Power Efficient Channel Scheduling In a Wireless Network" by Bah et al. (US 7,110,783)** are cited in the "**Response to Arguments**" of the Final Office Action dated May 28, 2008 as supportive references only to show the section recited in the Specification (page 10, lines 15-18) that "The frequency reference accuracy specified in WLAN standards *(e.g., ±25 ppm as specified in the IEEE 802.11b standard)*" can allow the phase-locked loop (PLL) to operate without automatic frequency control (AFC) provided by the WLAN baseband circuitry. As such, the WLAN baseband circuitry 208 does not have to be activated to detect the presence of the WLAN, thereby conserving power and saving battery life in the mobile device", as admitted by AAPA, is well-known to one of ordinary skill in the art.

Hence, Examiner respectfully submits that the finality of the Office Action dated May 28, 2008 is proper as the Examiner has not asserted any new ground of rejection.

Conclusion

20. Applicant's arguments as well as request for reconsideration filed on 08/11/2008 have been fully considered but they are not deemed to be persuasive.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Nguyen whose telephone number is (571) 272-3886.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's SPE, Rupal Dharia, can be reached at (571) 272-3880. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quang N. Nguyen/
Primary Examiner, Art Unit 2141